



Does MRAP Provide a Model for Acquisition Reform?

Thomas H. Miller

The capability provided by Mine Resistant Ambush Protected tactical vehicles—involving greatly improved armor protection for transporting warfighters in combat operations—is well known to the defense community at this point as well as to most of the public at large. The MRAP acquisition strategy is also well known to the defense acquisition community. Does this strategy provide a model for streamlining the acquisition process, or was it a once-in-a-lifetime set of circumstances that will likely never be repeated? In this article, I will attempt to answer that question, framing the MRAP acquisition strategy in the context of its program history and in relation to current acquisition process improvement efforts.

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The Need Arises

Initial acquisition of MRAP-type vehicles by the Marine Corps Systems Command (MCSC) for the U.S. Marine Corps occurred in 2004-6 in the form of Force Protection Industries' Cougar vehicles fielded to Marine units involved in Operation Iraqi Freedom. The heavily armored trucks featured a V-shaped underbody armor package intended to protect the vehicle operators and crew from buried land mines and (then a relatively new term) improvised explosive devices. They were procured in response to an urgent universal needs statement requirement and used by explosive ordnance disposal units and engineer battalions for explosive ordnance disposal and other hazardous missions. The acronym MRAP was first used in another urgent universal needs statement submitted in 2005, although that statement resulted in the acquisition of M1114 Up-Armored High Mobility Multipurpose Wheeled Vehicles for the Marine Corps.

In anticipation of increasing demand for MRAP vehicles, based on the then-rapidly escalating IED threat in Iraq, MCSC established the Office of the Program Manager, MRAP, in 2006. The new MRAP program manager was immediately tasked with developing an acquisition strategy to address requirements in pending joint universal operational needs statements for

a total of 1,185 MRAP vehicles. Development of the acquisition strategy for rapidly acquiring and fielding the vehicles became more challenging for the Marine Corps MRAP program management office when the Army decided to add their requirements for up to 21,000 MRAP vehicles, with an initial quantity of 2,500 vehicles, just prior to release of the request for proposal in October 2006.

MRAP Acquisition Strategy

Based on detailed market research, the MRAP program manager determined that there were several mature vehicle systems in the marketplace that were potential candidates to meet the requirements outlined in the joint universal operational needs statements. None of the vendors of the systems, however, were producing them in significant quantities at that time. With the objective of getting as many vehicles to theater as quickly as possible, the acquisition strategy included a dual path for contracting: a best-value competition with plans to award firm-fixed-price indefinite delivery/indefinite quantity production contracts to all vendors considered capable of meeting test requirements (primarily survivability and automotive performance) with maximum production output; and award of a sole source contract to Force Protection Industries for enough Cougar vehicles to cover the time

estimated to conduct the competition, award the production contracts, and ensure quick delivery of proven vehicles to theater. The MRAP competitive request for proposal was released in November 2006, with the sole source contract award occurring concurrently.

The MRAP competitive acquisition was truly competitive, with 10 proposals received in December 2006. After an extremely compressed source selection, the source selection authority decided to award indefinite delivery/indefinite quantity contracts to nine qualified offerors, with orders for four initial production vehicles for survivability and automotive testing. MCSC informed the contractors of its intent to award follow-on production orders to those vendors with the highest production capability combined with proven survivability and performance assessment from government testing—those who could provide the “fastest and most-est” would gain priority for production funding. Industry responded aggressively to meet MRAP requirements, investing internal capital at risk and teaming with other industry partners to expand available production capacity in order to meet the anticipated quick production ramp up.

What Happened Next?

The MRAP program gained significant momentum when Secretary of Defense Robert Gates stated in May 2007 that the acquisition of MRAP vehicles was the highest priority program in DoD. He also established an MRAP Task Force, chaired by then-Director of Defense Research and Engineering John Young (later under secretary of defense for acquisition, logistics and technology). Gates’ direction to the task force was to “... integrate planning, analysis, and actions to accelerate over the next year the acquisition of as many MRAPs as is possible and prudent,” and “... get as many of these vehicles to our soldiers and Marines in the field as is possible in the next several months.”

An unspoken reason behind establishing the task force was to bypass the normal Pentagon acquisition bureaucracy, which Gates viewed as too slow to react to urgent war requirements. Within a year—with encouragement from Gates, engaged oversight from the task force, and active management from the Joint Program Office—a total of 2,400 MRAP vehicles were delivered to theater. Total MRAP production capacity went from 82 vehicles a month in June 2007 to 1,300 a month in December 2007. Current requirements for MRAP vehicles for all DoD services have grown to nearly 27,000 vehicles, including the latest iteration, the MRAP All-Terrain Vehicle, with more than 16,000 vehicles delivered and total expenditures close to \$30 billion.

Is MRAP a Model for Streamlining Defense Acquisition?

The rapid acquisition and fielding of life-saving MRAP vehicles is, indeed, an amazing achievement and a relatively rare success story for DoD acquisition, but does it provide a model for streamlining the defense acquisition process such

that it can be applied to all (or even most) acquisition programs? I would argue that the answer is no. The almost perfect alignment of favorable circumstances that contributed to the success of the program—consistent support from the highest level and an almost unlimited budget—cannot be replicated on most acquisition programs. In addition, MRAP benefitted from ready availability of mature vehicles that could be quickly produced and fielded. DoD program managers should, of course, pursue mature technology when available, but using that approach for all or most acquisition programs would limit access to development of technologies that are essential to fighting future wars. There are, however, lessons learned from the MRAP program that can be applied to improve the general acquisition process. The key ones, in my opinion, are the following:

Identify Requirements

Identify a baseline set of mandatory requirements—only those that are absolutely required by the user community—and let industry propose additional capabilities after demonstrating that they meet these core requirements in order to differentiate their proposals.

Select the vendor or vendors that provide the best overall value to the government. It is commonly recognized that requirements creep is a primary source of cost and schedule growth experienced by most major defense acquisition programs. It takes discipline and determination for the program management office (and often higher-level support) to limit requirements organizations to the bare minimum, technically achievable requirements set and prevent them from changing once established. The Joint Capabilities Integration and Development System requirements development system is usually not constrained by achievability or affordability determined through rigorous market research, and it is often executed by practitioners with little or no acquisition or business experience.

Program management offices commonly receive requirements documents after they are approved, with little capability to influence the establishment of key performance parameters. In the case of MRAP, initial user requirements—in the form of an urgent universal needs statement—were broadly defined in terms of operational need and cited examples of currently available mine-resistant vehicles.

The MRAP program manager, driven by the need for rapid fielding, conducted detailed market research to determine “the art of the possible” in currently available technology so as to avoid requirements that could unintentionally result in extended development time. The manager used that information to create a bare bones statement of objectives performance specification that was the basis for the MRAP request for proposal. The Government Accountability Office found that “... DoD kept the requirements simple, clear, and flexible and did not dictate a single acceptable solution.”

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After the RFP was issued, and even after award of the indefinite delivery/indefinite quantity production contracts, requirements changes required senior-level approval. As stated by Brig. Gen. Michael Brogan, MCSC commander and MRAP joint program executive officer, “That kept us from having to deal with requirements creep—with all the good ideas that people want to add later on—and allowed us to move forward very quickly.”

Avoiding Schedule Creep

Use a “schedule as an independent variable” acquisition approach. Schedule creep is another significant contributor to cost and schedule growth. Acquisition program schedules are usually established early in the program, prior to establishing a clear understanding of requirements, availability of mature technology, and finalization of the acquisition strategy; and once they are established (particularly in today’s Nunn-McCurdy environment) are hard to change thereafter. Diligent program managers then cause or compound cost growth by trying to meet unrealistic schedules, or the schedules are traded off when the programs experience the inevitable funding cut or technology challenge.

The acquisition process should allow for flexible schedules early, particularly in programs with significant development, but once the requirements are set and acquisition strategy established, the schedule should be similarly set in stone and other program factors—including requirements changes—traded against it. The MRAP program, driven by urgent operational needs, “crashed” the program schedule, accepting some additional cost and technical risk and starting initial production based on limited initial testing while continuing to concurrently conduct increasing phases of progressively more detailed testing and using those results to support placing additional, follow-on production orders. This

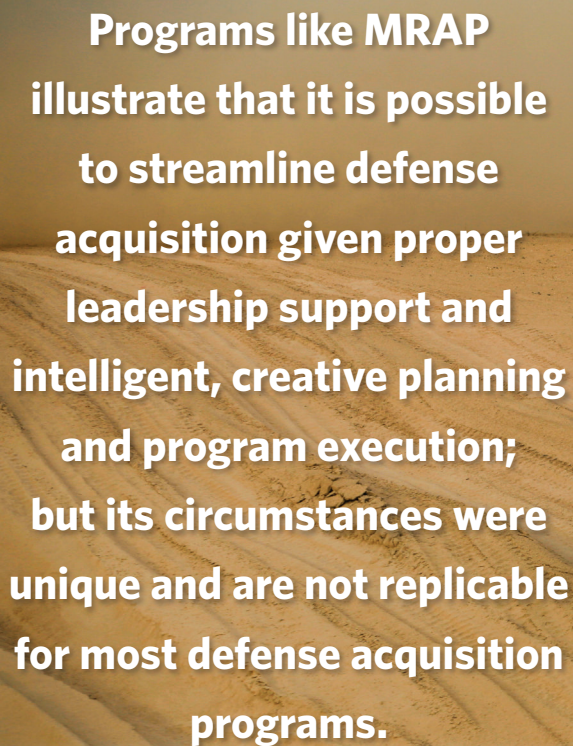
approach also demonstrates the benefit of close coordination between the program manager and requirements and testing organizations, both in program planning and execution—something that should be standard business practice in all programs. Configuration steering boards are a good mechanism to control risk in this area and should be used by program managers to resolve cost-driving requirements changes before they negatively impact the program.

Stable Funding

Stable program funding is the key to program success. MRAP, of course, had access to almost unlimited funding for vehicles, support, add-on equipment, transportation, etc. Although that is certainly unusual within defense acquisition, the program was able to avoid negative cost and schedule impacts that are common with defense programs due to continual, often arbitrary funding cuts and/or delays. Program managers usually hear about funding cuts or realignments after the fact and are made to be the bad guys when they have to explain the detrimental programmatic effects of those cuts. Unless driven by Congress, program funding should not be cut without close coordination in advance with the program management office so that decision makers understand the full impact of the cuts. The decision makers should also assess—in a true portfolio management fashion—whether it would be better to completely cut lower-priority programs rather than the usual across-the-board, “salami-slice” cut approach that is common in defense acquisition.

Leadership Support

Consistent higher-level leadership support is also essential to program success. A significant contributor to the success of the MRAP program was the consistent, across-the-board support from DoD and congressional leadership. Examples of that are the expedited approval of a DX rating (the high-



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est national priority rating) and establishment of the MRAP Task Force to deal with impediments to quick production ramp up. Less apparent examples include leadership support in fighting off the usual bureaucratic and political speed bumps experienced by most acquisition programs. Although as stated in the GAO report, “Not every program can be a highest priority...,” program managers should strategically use support from the program executive officer/milestone decision authority (and higher—as high as possible) leadership to identify and resolve barriers (such as requirements changes, test delays, etc.) and take appropriate risks to expedite fielding of required equipment. Similarly, DoD leadership in all organizations (requirements, acquisition, testing, and finance) should be responsible for advocating program success, making decisions, and taking prompt action accordingly at the request of the program management office.

I would also note and encourage other programs to copy the creativity used by the MRAP program management office and DoD leadership in developing and executing their acquisition strategy. Program managers should be encouraged to take strategic risks and make trades that result in getting urgent equipment into the hands of the warfighter as quickly as possible. Creative thinking is a key capability in this regard. The MRAP program manager and MCSC decided to mitigate risk of delay from protests by awarding contracts to all vendors that proposed and had even an

outside chance to meet test and production requirements. The trade in this regard was higher upfront cost in terms of funding for initial production and test. Again, this approach is not something that can be applied in all programs, but it made sense for MRAP and is an example of creative acquisition approaches that are possible but are too often stifled in the standard, highly regimented, legislatively controlled acquisition process.

A Suggestion for Implementing Changes

Programs like MRAP illustrate that it is possible to streamline defense acquisition given proper leadership support and intelligent, creative planning and program execution; but its circumstances were unique and are not replicable for most defense acquisition programs. I would argue, however, that the defense acquisition process could be significantly expedited through application of the lessons learned from the MRAP program. But how is this to be done, given that attempts to streamline the acquisition process have been many and frequent but seldom successful?

One method to consider is to create a separate, unique acquisition process for equipment and/or services required to meet truly urgent operational needs. This would be the equivalent of the Clear® lanes that allowed priority, pre-qualified customers to bypass normal airport security and speed through to the gate. Such a process would require approval for application based on documented urgency and service commitment, but once approved, would allow program managers to tailor program documentation, provide for designation of top leadership sponsors for the program, include a streamlined requirements development process, and help mitigate program funding instability. Establishing that type of unique, streamlined process—used only in limited circumstances—could be successful where previous attempts to reform the standard acquisition process failed. The GAO report on MRAP supported such a change, and in fact, advocated establishing a new agency (the “Rapid Acquisition and Fielding Agency” as recommended previously by the Defense Acquisition Performance Assessment Panel) to oversee and execute the process.

Given the current consensus that the defense acquisition system is not working, particularly in terms of the consistent delays experienced in fielding urgently needed warfighter materiel, now is the time to pursue a change as I have advocated in this article. MRAP is a case in point, as it was successful primarily due to Gates establishing a process outside of the normal bureaucracy. The success can be replicated and standardized through creating a standalone process that allows program managers and defense acquisition leadership to focus resources on rapid fielding of equipment where it is most urgently required.

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